

(Appendix E, which is enclosed herewith, shows how currently pending Claims 1 and 21 were amended to produce amended Claims 1 and 21 in Appendix F. In Appendix E, the portions being added are underlined; and the portions being deleted are enclosed in braces.)

Please add new Claims 27-39, which are set forth in the enclosed Appendix D.

#### **REMARKS**

The response that was filed on October 3, 2002 was completely responsive to the outstanding Office Action that was mailed on March 29, 2002. This supplemental response merely cancels currently pending Claim 26, amends currently pending Claims 1 and 21, adds new Claims 27-39, and provides a further explanation of why the claims are nonobvious over the prior art.

Hereinafter, the claims that are pending prior to the entry of the amendments in this supplemental response are called "currently pending claims." This supplemental response cancels currently pending Claim 26, amends currently pending Claims 1 and 21, and adds new Claims 27-39. Upon amendment, the above-identified U.S. patent application will have two independent claims (amended Claims 1 and 21) and 35 total claims (amended Claim 1, currently pending Claims 2-8, 10-18, and 20, amended Claim 21, currently pending Claims 23-25, and new Claims 27-39). The Applicants previously paid for up to three independent claims and 23 total claims. Therefore, a fee is due for 12 excess total claims; and a check for this fee is enclosed herewith.

Support for amending currently pending Claims 1 and 21 can be found in, inter alia, originally filed Claim 1.

Support for new Claim 27 can be found in, inter alia, the last line on page 3 through line 8 on page 8 of the specification of the above-identified U.S. application. Support for new Claim 28 can be found in, inter alia, line 9 on page 8 through line 21 on page 40 of the specification of the above-identified U.S. application.

Support for specifying in new Claim 29 that the inorganic support is not functionalized can be found in Examples 8 and 11-16 on pages 50-53 of the specification because these examples indicate that the inorganic support was not functionalized.

Support for new Claims 30-36 can be found in, inter alia, originally filed Claim 1.

Support for new Claim 37 can be found in, inter alia, line 7 on page 43 of the specification, lines 23-24 on page 44 of the specification, line 29 on page 45 of the specification, lines 26-27 on page 46 of the specification, lines 30-31 on page 47 of the specification, line 29 on page 48 of the specification, lines 27-28 on page 49 of the specification, lines 12-13 on page 50 of the specification, lines 15-16 on page 51 of the specification, lines 19-20 on page 52 of the specification, and lines 32-33 on page 52 of the specification.

Support for new Claim 38 can be found in, inter alia, originally filed Claim 8. Support for new Claim 39 can be found in, inter alia, the paragraph bridging pages 41 and 42 of the specification.

Amended Claim 1, currently pending Claims 2-7 and 10-18, amended Claim 21, currently pending Claims 23-25, and new Claims 27-37 are

readable upon the elected invention. If elected amended Claims 1 and 21 are allowable, then the Examiner should consider nonelected currently pending Subclaims 8 and 20 and new Subclaims 38 and 39 on the merits because these subclaims are each dependent on an elected allowable base claim (amended Claim 1 or 21).

In the outstanding Office Action, the Examiner rejects then-pending Claims 1-7, 10-19, and 21 for allegedly being anticipated by or obvious in view of European Patent Document No. 0 802 203 (hereinafter referred to as the "Hidalgo-Llinas document"); and the Examiner rejects then-pending Claims 1-7, 10-19, and 21 for allegedly being obvious over European Patent Document No. 0 372 414 (hereinafter referred to as the "Antberg EPO document") in view of European Patent Document No. 0 206 794 (hereinafter referred to as the "Welborn document"). The Applicants respectfully traverse these rejections. Furthermore, these rejections are now moot and should be withdrawn because the prior art does not teach or suggest amended Claim 1, currently pending Claims 2-8, 10-18, and 20, amended Claim 21, currently pending Claims 23-25, and new Claims 27-37.

Amended independent Claims 1 and 21 each specify that the supported metallocene compound on the support is defined by formula I, II, or III. According to the above-identified U.S. application (see, for example, lines 14-25 on page 41 of the specification), the supported metallocene compound may be prepared in a number of different ways, including by impregnating an alumoxane-treated inorganic support with a solution containing the metallocene compound or by simply depositing the metallocene compound on the alumoxane-treated inorganic support.

Formulas I, II, and III of the supported metallocene compound each require the following group:  $-R^I OSiR^{II}_3$  (hereinafter referred to as the "novel group"). This novel group apparently is responsible

for the excellent performance of the catalytic compositions claimed in amended Claims 1 and 21. Specifically, this novel group is believed to be responsible for the excellent performance of the claimed catalytic compositions in catalyzing polymerization reactions without fouling the reactor and in producing polymers having excellent morphologies.

By contrast, the Hidalgo-Llinas document does not disclose or suggest a supported metallocene compound having the above-mentioned novel group; and, more particularly, the catalysts disclosed in Examples 6-12 on pages 10 and 11 of the Hidalgo-Llinas document do not include a supported metallocene compound having the above-mentioned novel group. For example, lines 27-37 on page 4 of the Hidalgo-Llinas document disclose a metallocene compound having the formula (III), which includes the following groups:  $(L_1)_m$ ,  $D_n$ , and  $A_g$ . Significantly,  $(L_1)_m$ ,  $D_n$ , and  $A_g$  do not include the above-mentioned novel group. For instance,  $(L_1)_m$  and  $D_n$  may each include a group having the formula (IV) (see lines 25-35 on page 5 of the Hidalgo-Llinas document), but formula (IV) is not equivalent to the above-mentioned novel group because formula (IV) does not include an oxygen atom, which is required by the above-mentioned novel group, and because formula (IV) requires Y (a halogen,  $NR_{11}R_{12}$ , or a hydroxyl group (see line 43 on page 5 of the Hidalgo-Llinas document)), which is not found in the above-mentioned novel group. Similarly,  $A_g$  includes a group having the formula (V) (see lines 49-57 on page 5 of the Hidalgo-Llinas document), but formula (V) is not equivalent to the above-mentioned novel group because formula (V) does not have three  $R^{II}$  groups, as required by the above-mentioned novel group.

Amended independent Claims 1 and 21 each call for a supported metallocene compound on a support, wherein the supported metallocene compound has the above-mentioned novel group. As a

result, the catalytic compositions claimed in Claims 1 and 21 can catalyze a polymerization reaction without fouling the reactor and can produce polymers having excellent morphologies even if only a small quantity of an alkylaluminum (such as TIBA) is added to the polymerization reactor (see Examples 27-35 on pages 57-60 of the Applicants' specification). By contrast, because the catalytic compositions disclosed or suggested in the Hidalgo-Llinas document are different from the catalytic compositions claimed in amended Claims 1 and 21, catalyzing a polymerization reaction with the catalytic compositions disclosed in the Hidalgo-Llinas document requires adding relatively large quantities of costly alumoxane to the polymerization reactor in order to carry out the polymerization (see Examples 13-24 on pages 11-13 of the Hidalgo-Llinas document, which discloses feeding relatively large quantities of costly alumoxane (MAO) to the polymerization reactor). Amended independent Claims 1 and 21 are novel and nonobvious over the Hidalgo-Llinas document because the Hidalgo-Llinas document does not teach or suggest a supported metallocene compound on a support (as claimed in amended Claims 1 and 21), wherein the supported metallocene compound has the above-mentioned novel group.

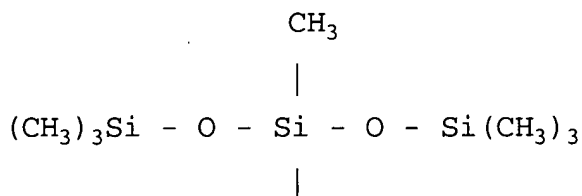
Amended independent Claims 1 and 21 are also nonobvious over the Antberg EPO document in view of the Welborn document because the cited documents do not teach or suggest a supported metallocene compound having the above-mentioned novel group, as claimed in amended Claims 1 and 21.

(The Antberg EPO document is in German; and the undersigned attorney does not speak German. Therefore, rather than discussing the Antberg EPO document, the following discussion refers to Antberg et al.'s U.S. Patent No. 5,071,808 (hereinafter referred to as the "Antberg U.S. patent"), which is believed to be an English-language equivalent of the Antberg EPO document because

the Antberg U.S. patent and the Antberg EPO document both claim priority to German Patent Application No. 3840772 (filed December 3, 1988).)

For example, the Antberg U.S. patent discloses various metallocene compounds, but the Antberg U.S. patent does not teach or suggest that the metallocene compounds should contain the above-mentioned novel group; and, moreover, the prior art does not teach or suggest that these metallocene compounds should be supported on an alumoxane-treated support.

Specifically, the Antberg U.S. patent (see lines 10-25 of column 5) discloses a metallocene compound with two groups (hereinafter referred to as "Antberg groups") having the following formula:



Significantly, the Antberg group is not the same as the novel group that is claimed in amended Claims 1 and 21, which specify that the  $-\text{OSiR}^{\text{II}}_3$  group in formula I is directly bonded to a carbon atom in the  $\text{R}^{\text{I}}$ . In fact, the Antberg U.S. patent does not teach or suggest that metallocene compounds should contain the above-mentioned novel group; and the Antberg U.S. patent does not teach or suggest how to make metallocene compounds that contain the above-mentioned novel group. Consequently, even if the disclosure of the Antberg U.S. patent is combined with the disclosure of the Welborn document, the combined disclosures do

not teach or suggest a supported metallocene compound on a support (as claimed in amended Claims 1 and 21), wherein the supported metallocene compound has the above-mentioned novel group.

(In fact, as explained in exhaustive detail in the Applicants' February 27, 2001 supplemental response (see the last paragraph on page 11 through the first paragraph on page 14 of the response), the Applicants' position is that the disclosure of the Antberg U.S. patent and the disclosure of the Welborn document cannot be combined because the Antberg U.S. patent and the Welborn document actually teach away from each other.)

Amended independent Claims 1 and 21 are novel and nonobvious over the prior art because the prior art does not teach or suggest a supported metallocene compound on a support (as claimed in amended Claims 1 and 21), wherein the supported metallocene compound has the above-mentioned novel group. The subclaims (e.g., currently pending Subclaims 2-8, 10-18, 20, and 23-25, and new Subclaims 27-39) are nonobvious over the prior art at the very least because these subclaims are each dependent on a nonobvious base claim (amended Claim 1 or 21). The subclaims are further nonobvious over the prior art because the prior art does not teach or suggest the particular features that are claimed in these subclaims.

In view of the foregoing, favorable reconsideration of the amended application is respectfully requested. It is submitted that the claims of record are in condition for allowance. Allowance of the claims at an early date is solicited.

This supplemental response cancels currently pending Claim 26, amends currently pending Claims 1 and 21, and adds new Claims 27-39. The cancellations, amendments, and additions that are described in the preceding sentence were done to more fully claim the invention and were not done to overcome the prior art, to

overcome rejections under 35 U.S.C. § 112, or to overcome any other rejections or objections. The cancellations, amendments, and additions that are described in the first sentence of this paragraph shall not be considered necessary to overcome the prior art, shall not be considered necessary to overcome rejections under 35 U.S.C. § 112, and shall not be considered necessary to overcome any other rejections or objections.

The Applicants reserve the right to seek protection for any unclaimed subject matter either subsequently in the prosecution of the present case or in a divisional or continuation application.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to Deposit Account No. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 C.F.R. § 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed; and the petition fee due in connection therewith may be charged to Deposit Account No. 12-0415.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first-class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C., 20231 on

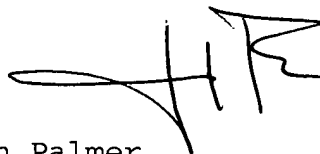
November 11, 2002  
(Date of Deposit)

JOHN PALMER  
(Name of Applicant, Assignee  
or Registered Representative)

(Signature)

(Date)

Respectfully submitted,



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Encl.: Appendices D, E, and F





# APPENDIX F

U.S. Patent Application No. 09/299,539

Applicant: Antonio Munoz-Escalona Lafuente, et al.

Title: "Catalytic Systems for the . . ."

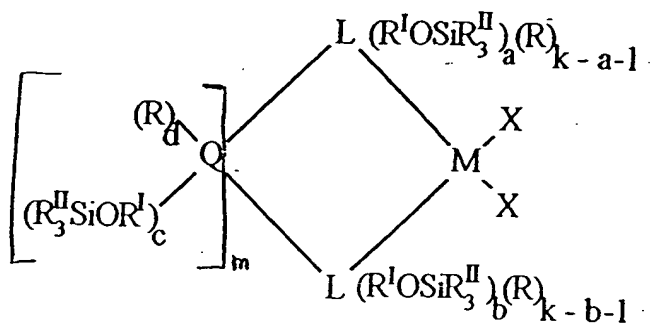
Our Ref.: 617072-2/JP/B-3643

Please replace currently pending Claims 1 and 21 with amended Claims 1 and 21, which are set forth below.

Claim 1. (amended five times) A heterogeneous catalytic composition obtained by reacting a porous inorganic support with an alumoxane and subsequently supporting at least one metallocene compound thereon, wherein the supported metallocene compound on the support is defined by formula I, II, or III:

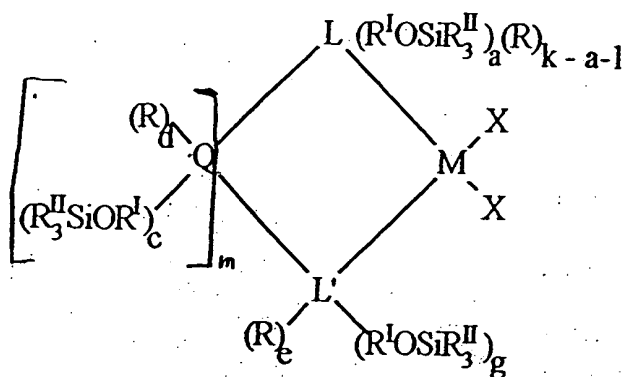


I,



II, or

# APPENDIX F



III,

wherein:

the L groups are equal to or different from each other, wherein each L is selected from the group consisting of cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl, octahydrofluorenyl, and benzoindenyl;

each R is independently hydrogen, linear or branched C<sub>1</sub>-C<sub>20</sub> alkyl, linear or branched C<sub>3</sub>-C<sub>20</sub> cycloalkyl, linear or branched C<sub>6</sub>-C<sub>20</sub> aryl, linear or branched C<sub>3</sub>-C<sub>20</sub> alkenyl, linear or branched C<sub>7</sub>-C<sub>20</sub> arylalkyl, linear or branched C<sub>7</sub>-C<sub>20</sub> alkylaryl, linear or branched C<sub>8</sub>-C<sub>20</sub> arylalkenyl, or a group SiR<sup>II</sup><sub>3</sub>, wherein the C<sub>1</sub>-C<sub>20</sub> alkyl, the C<sub>3</sub>-C<sub>20</sub> cycloalkyl, the C<sub>6</sub>-C<sub>20</sub> aryl, the C<sub>3</sub>-C<sub>20</sub> alkenyl, the C<sub>7</sub>-C<sub>20</sub> arylalkyl, the C<sub>7</sub>-C<sub>20</sub> alkylaryl, and the C<sub>8</sub>-C<sub>20</sub> arylalkenyl are optionally substituted with 1 to 10 halogen atoms;

the R<sup>I</sup> groups are equal to or different from each other, wherein

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*G1*  
*Cont*  
 $g$  is equal to 0 or 1;

$c$  is equal to 0 or 1;

$e$  is equal to 0 or 1;

$a + b + c$  is at least 1;

$a + g + c$  is at least 1;

$d$  is equal to 0, 1, or 2;

when  $Q$  is B, then  $c + d = 1$ ;

when  $Q$  is C, Si, Ge, or Sn, then  $c + d = 2$ ;

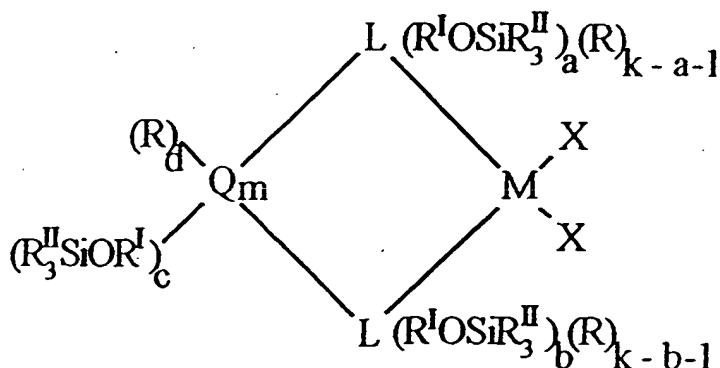
when  $L'$  is N, then  $g + e = 1$ ; and

when  $L'$  is O, then  $g = 0$  and  $e = 0$ .

*G2*  
Claim 21. (amended twice) A heterogeneous catalytic system obtained by reacting a porous inorganic support with an alumoxane and subsequently supporting at least one metallocene compound thereon, wherein the supported metallocene compound on the support is defined by formula I, II, or III:

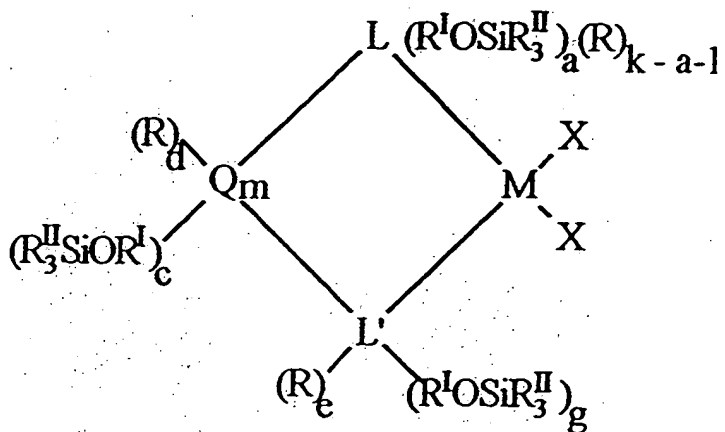


I,



II, or

# APPENDIX F



III,

wherein:

the **L** groups are equal to or different from each other, wherein each **L** is selected from the group consisting of cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl, octahydrofluorenyl, and benzoindenyl;

each **R** is independently hydrogen, linear or branched C<sub>1</sub>-C<sub>20</sub> alkyl, linear or branched C<sub>3</sub>-C<sub>20</sub> cycloalkyl, linear or branched C<sub>6</sub>-C<sub>20</sub> aryl, linear or branched C<sub>3</sub>-C<sub>20</sub> alkenyl, linear or branched C<sub>7</sub>-C<sub>20</sub> arylalkyl, linear or branched C<sub>7</sub>-C<sub>20</sub> alkylaryl, linear or branched C<sub>8</sub>-C<sub>20</sub> arylalkenyl, or a group SiR<sup>II</sup><sub>3</sub>, wherein the C<sub>1</sub>-C<sub>20</sub> alkyl, the

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C<sub>3</sub>-C<sub>20</sub> cycloalkyl, the C<sub>6</sub>-C<sub>20</sub> aryl, the C<sub>3</sub>-C<sub>20</sub> alkenyl, the C<sub>7</sub>-C<sub>20</sub> arylalkyl, the C<sub>7</sub>-C<sub>20</sub> alkylaryl, and the C<sub>8</sub>-C<sub>20</sub> arylalkenyl are optionally substituted with 1 to 10 halogen atoms;

the R<sup>I</sup> groups are equal to or different from each other, wherein each R<sup>I</sup> is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, optionally containing from 1 to 5 heteroatoms of groups 14 to 16 of the Periodic Table of the Elements, and optionally containing boron; wherein the -OSiR<sup>II</sup><sub>3</sub> group in the formula I is directly bonded to a carbon atom in the R<sup>I</sup>;

each R<sup>II</sup> is independently linear or branched C<sub>1</sub>-C<sub>20</sub> alkyl, linear or branched C<sub>3</sub>-C<sub>20</sub> cycloalkyl, linear or branched C<sub>6</sub>-C<sub>20</sub> aryl, linear or branched C<sub>3</sub>-C<sub>20</sub> alkenyl, linear or branched C<sub>7</sub>-C<sub>20</sub> arylalkyl, linear or branched C<sub>8</sub>-C<sub>20</sub> arylalkenyl, or linear or branched C<sub>7</sub>-C<sub>20</sub> alkylaryl;

each Q is independently B, C, Si, Ge, or Sn;

M is a lanthanide, an actinide, or a metal of group 3, 4, or 10 of the Periodic Table of the Elements, and M has a valence;

each X is independently hydrogen, chlorine, bromine, OR<sup>II</sup>, NR<sup>II</sup><sub>2</sub>, C<sub>1</sub>-C<sub>20</sub> alkyl, or C<sub>6</sub>-C<sub>20</sub> aryl;

L' is N or O;

when L is cyclopentadienyl, k is equal to 5; when L is indenyl, k is equal to 7; when L is fluorenyl or benzoindenyl, k is equal to 9; when L is tetrahydroindenyl, k is equal to 11; and when L is octahydrofluorenyl, k is equal to 17;

z is equal to 0, 1, or 2;

x is equal to 1, 2, or 3;

y is equal to 1, 2, or 3;

x + y + z is equal to the valence of M;

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*G2 Cont*

$m$  is equal to 1, 2, 3 or 4;  
 $a$  is an integer whose value ranges from 0 to  $k-1$ ;  
 $b$  is an integer whose value ranges from 0 to  $k-1$ ;  
 $f$  is an integer whose value ranges from 1 to  $k$ ;  
 $g$  is equal to 0 or 1;  
 $c$  is equal to 0 or 1;  
 $e$  is equal to 0 or 1;  
 $a + b + c$  is at least 1;  
 $a + g + c$  is at least 1;  
 $d$  is equal to 0, 1, or 2;  
when  $Q$  is B, then  $c + d = 1$ ;  
when  $Q$  is C, Si, Ge, or Sn, then  $c + d = 2$ ;  
when  $L'$  is N, then  $g + e = 1$ ; and  
when  $L'$  is O, then  $g = 0$  and  $e = 0$ .

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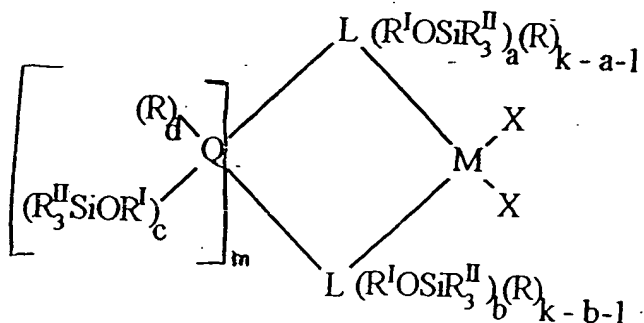


# APPENDIX E

Re: U.S. Patent Application No. 09/299,539  
 Applicant: Antonio Munoz-Escalona Lafuente, et al.  
 Title: "Catalytic Systems for the . . ."  
 Our Ref.: 617072-2/JP/B-3643

Please amend currently pending Claims 1 and 21 as indicated below, wherein the portions being added are underlined and the portions being deleted are enclosed in braces.

Claim 1. (amended five times) A heterogeneous catalytic composition obtained by reacting a porous inorganic support with an alumoxane and subsequently supporting at least one metallocene compound thereon, wherein the supported metallocene compound on the support is defined by formula I, II, or III:



I,

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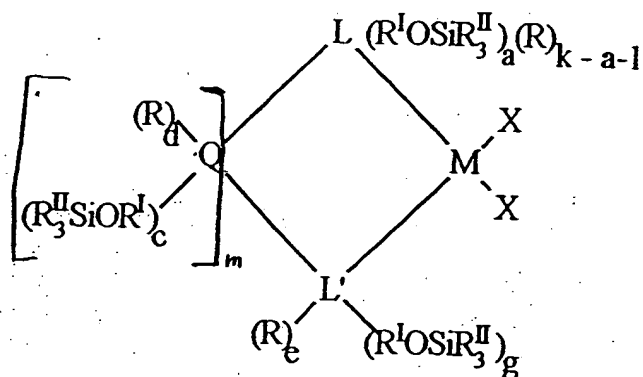
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II,

or

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## APPENDIX E



III,

wherein:

the **L** groups are equal to or different from each other, wherein each **L** is selected from the group consisting of cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl, octahydrofluorenyl, and benzoindenyl;

each **R** is independently hydrogen, linear or branched  $\text{C}_1\text{-C}_{20}$  alkyl, linear or branched  $\text{C}_3\text{-C}_{20}$  cycloalkyl, linear or branched  $\text{C}_6\text{-C}_{20}$  aryl, linear or branched  $\text{C}_3\text{-C}_{20}$  alkenyl, linear or branched  $\text{C}_7\text{-C}_{20}$  arylalkyl, linear or branched  $\text{C}_7\text{-C}_{20}$  alkylaryl, linear or branched  $\text{C}_8\text{-C}_{20}$  arylalkenyl, or a group  $\text{SiR}^{\text{II}}_3$ , wherein the  $\text{C}_1\text{-C}_{20}$  alkyl, the  $\text{C}_3\text{-C}_{20}$  cycloalkyl, the  $\text{C}_6\text{-C}_{20}$  aryl, the  $\text{C}_3\text{-C}_{20}$  alkenyl, the  $\text{C}_7\text{-C}_{20}$  arylalkyl, the  $\text{C}_7\text{-C}_{20}$  alkylaryl, and the  $\text{C}_8\text{-C}_{20}$  arylalkenyl are optionally substituted with 1 to 10 halogen atoms;



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the  $R^I$  groups are equal to or different from each other, wherein each  $R^I$  is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, optionally containing from 1 to 5 heteroatoms of groups 14 to 16 of the Periodic Table of the Elements, and optionally containing boron; wherein the  $-OSiR^{II}_3$  group in the formula I is directly bonded to a carbon atom in the  $R^I$ ;

each  $R^{II}$  is independently linear or branched  $C_1-C_{20}$  alkyl, linear or branched  $C_3-C_{20}$  cycloalkyl, linear or branched  $C_6-C_{20}$  aryl, linear or branched  $C_3-C_{20}$  alkenyl, linear or branched  $C_7-C_{20}$  arylalkyl, linear or branched  $C_8-C_{20}$  arylalkenyl, or linear or branched  $C_7-C_{20}$  alkylaryl;

each  $Q$  is independently B, C, Si, Ge, or Sn;

$M$  is a lanthanide, an actinide, or a metal of group 3, 4, or 10 of the Periodic Table of the Elements, and  $M$  has a valence;

each  $X$  is independently hydrogen, chlorine, bromine,  $OR^{II}$ ,  $NR^{II}_2$ ,  $C_1-C_{20}$  alkyl, or  $C_6-C_{20}$  aryl;

$L'$  is N or O;

when  $L$  is cyclopentadienyl,  $k$  is equal to 5; when  $L$  is indenyl,  $k$  is equal to 7; when  $L$  is fluorenyl or benzoindenyl,  $k$  is equal to 9; when  $L$  is tetrahydroindenyl,  $k$  is equal to 11; and when  $L$  is octahydrofluorenyl,  $k$  is equal to 17;

$z$  is equal to 0, 1, or 2;

$x$  is equal to 1, 2, or 3;

$y$  is equal to 1, 2, or 3;

$x + y + z$  is equal to the valence of  $M$ ;

$m$  is equal to 1, 2, 3 or 4;

$a$  is an integer whose value ranges from 0 to  $k-1$ ;

$b$  is an integer whose value ranges from 0 to  $k-1$ ;

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**f** is an integer whose value ranges from 1 to **k**;

**g** is equal to 0 or 1;

**c** is equal to 0 or 1;

**e** is equal to 0 or 1;

**a** + **b** + **c** is at least 1;

**a** + **g** + **c** is at least 1;

**d** is equal to 0, 1, or 2;

when **Q** is B, then **c** + **d** = 1;

when **Q** is C, Si, Ge, or Sn, then **c** + **d** = 2;

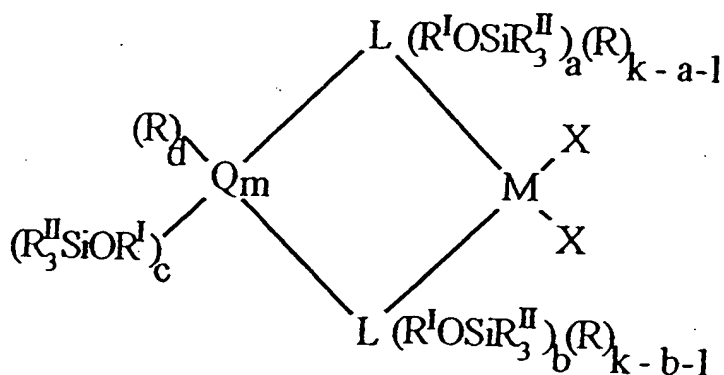
when **L'** is N, then **g** + **e** = 1; and

when **L'** is O, then **g** = 0 and **e** = 0.

Claim 21. (amended twice) A heterogeneous catalytic system obtained by reacting a porous inorganic support with an alumoxane and subsequently supporting at least one metallocene compound thereon, wherein the supported metallocene compound on the support is defined by formula I, II, or III:

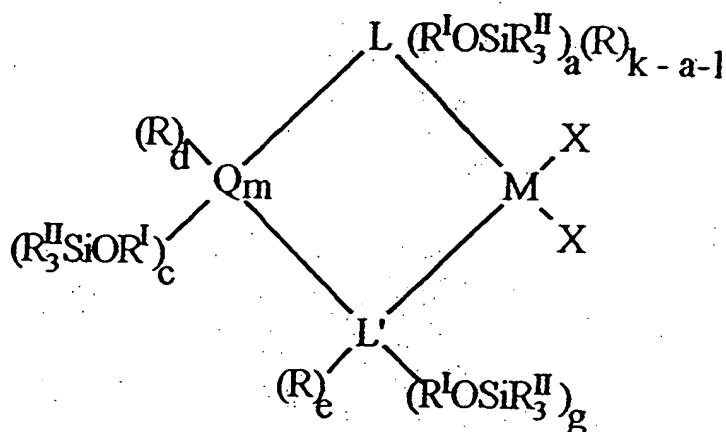


I,



II, or

# APPENDIX E



III,

wherein:

the **L** groups are equal to or different from each other, wherein each **L** is selected from the group consisting of cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl, octahydrofluorenyl, and benzoindenyl;

each **R** is independently hydrogen, linear or branched C<sub>1</sub>-C<sub>20</sub> alkyl, linear or branched C<sub>3</sub>-C<sub>20</sub> cycloalkyl, linear or branched C<sub>6</sub>-C<sub>20</sub> aryl, linear or branched C<sub>3</sub>-C<sub>20</sub> alkenyl, linear or branched C<sub>7</sub>-C<sub>20</sub> arylalkyl, linear or branched C<sub>7</sub>-C<sub>20</sub> alkylaryl, linear or branched

## APPENDIX E

$C_8-C_{20}$  arylalkenyl, or a group  $SiR^{II}_3$ , wherein the  $C_1-C_{20}$  alkyl, the  $C_3-C_{20}$  cycloalkyl, the  $C_6-C_{20}$  aryl, the  $C_3-C_{20}$  alkenyl, the  $C_7-C_{20}$  arylalkyl, the  $C_7-C_{20}$  alkylaryl, and the  $C_8-C_{20}$  arylalkenyl are optionally substituted with 1 to 10 halogen atoms;

the  $R^I$  groups are equal to or different from each other, wherein each  $R^I$  is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, optionally containing from 1 to 5 heteroatoms of groups 14 to 16 of the Periodic Table of the Elements, and optionally containing boron; wherein the  $-OSiR^{II}_3$  group in the formula I is directly bonded to a carbon atom in the  $R^I$ ;

each  $R^{II}$  is independently linear or branched  $C_1-C_{20}$  alkyl, linear or branched  $C_3-C_{20}$  cycloalkyl, linear or branched  $C_6-C_{20}$  aryl, linear or branched  $C_3-C_{20}$  alkenyl, linear or branched  $C_7-C_{20}$  arylalkyl, linear or branched  $C_8-C_{20}$  arylalkenyl, or linear or branched  $C_7-C_{20}$  alkylaryl;

each  $Q$  is independently B, C, Si, Ge, or Sn;

$M$  is a lanthanide, an actinide, or a metal of group 3, 4, or 10 of the Periodic Table of the Elements, and  $M$  has a valence;

each  $X$  is independently hydrogen, chlorine, bromine,  $OR^{II}$ ,  $NR^{II}_2$ ,  $C_1-C_{20}$  alkyl, or  $C_6-C_{20}$  aryl;

$L'$  is N or O;

when  $L$  is cyclopentadienyl,  $k$  is equal to 5; when  $L$  is indenyl,  $k$  is equal to 7; when  $L$  is fluorenyl or benzoindenyl,  $k$  is equal to 9; when  $L$  is tetrahydroindenyl,  $k$  is equal to 11; and when  $L$  is octahydrofluorenyl,  $k$  is equal to 17;

$z$  is equal to 0, 1, or 2;

$x$  is equal to 1, 2, or 3;

## APPENDIX E

**y** is equal to 1, 2, or 3;

**x + y + z** is equal to the valence of **M**;

**m** is equal to 1, 2, 3 or 4;

**a** is an integer whose value ranges from 0 to **k-1**;

**b** is an integer whose value ranges from 0 to **k-1**;

**f** is an integer whose value ranges from 1 to **k**;

**g** is equal to 0 or 1;

**c** is equal to 0 or 1;

**e** is equal to 0 or 1;

**a + b + c** is at least 1;

**a + g + c** is at least 1;

**d** is equal to 0, 1, or 2;

when **Q** is B, then **c + d = 1**;

when **Q** is C, Si, Ge, or Sn, then **c + d = 2**;

when **L'** is N, then **g + e = 1**; and

when **L'** is O, then **g = 0** and **e = 0**.



APPENDIX D

U.S. Patent Application No. 09/299,539

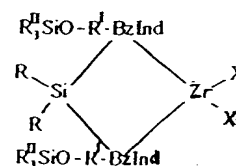
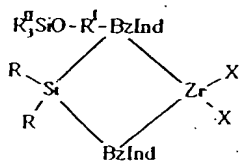
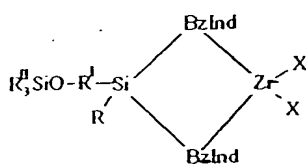
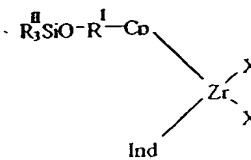
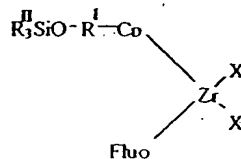
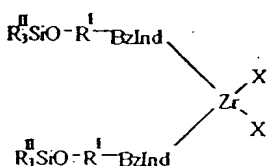
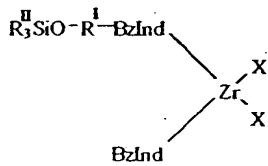
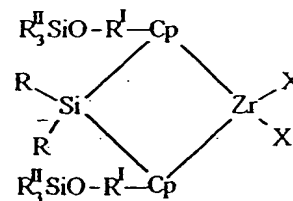
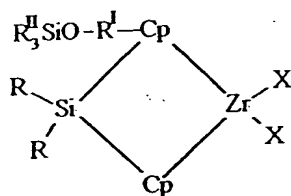
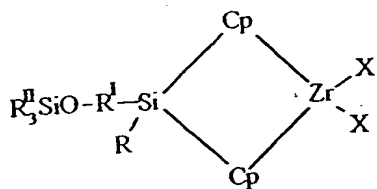
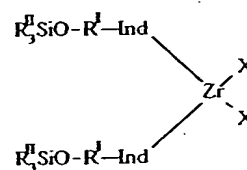
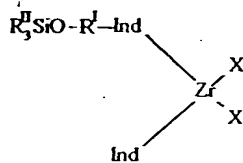
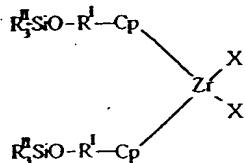
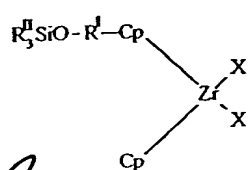
Applicant: Antonio Munoz-Escalona Lafuente, et al.

Title: "Catalytic Systems for the . . ."

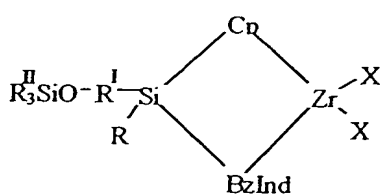
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Please add the following new claims.

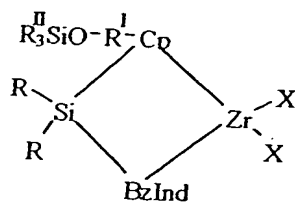
27. The heterogeneous catalytic system claimed in Claim 27 wherein the supported metallocene compound is selected from the group consisting of:



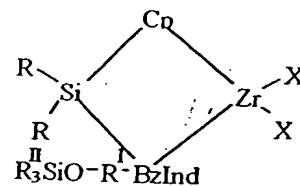
# APPENDIX D



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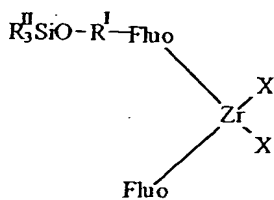


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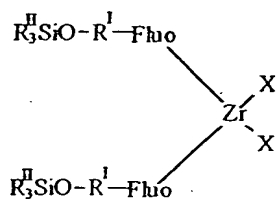


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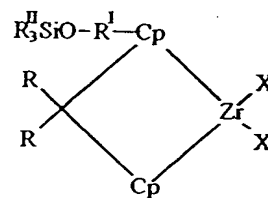
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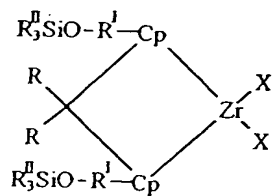
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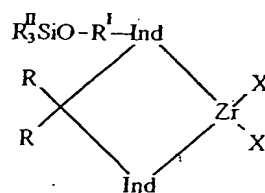
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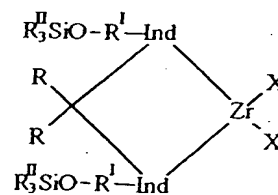
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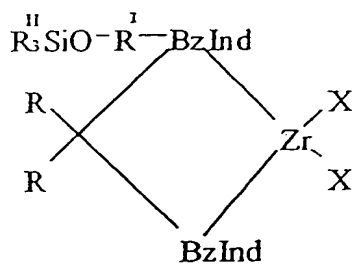
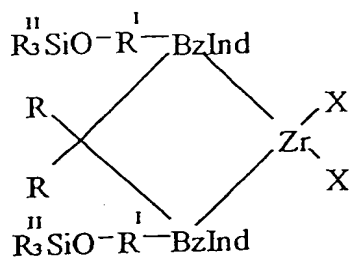


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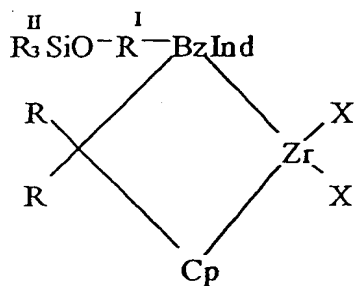
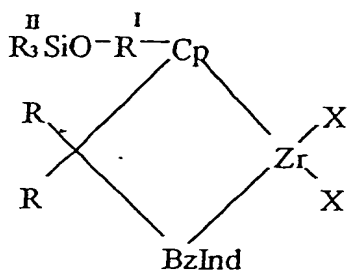
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# APPENDIX D



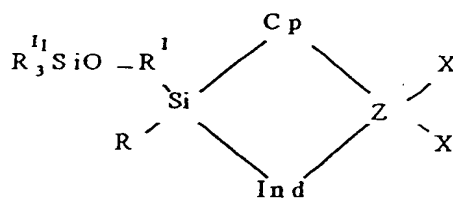
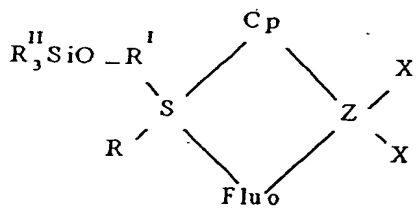
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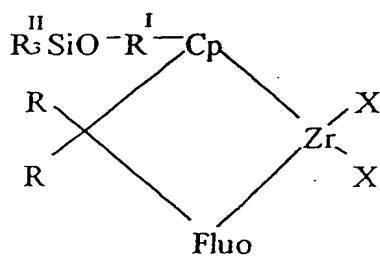
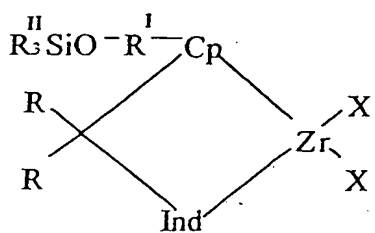
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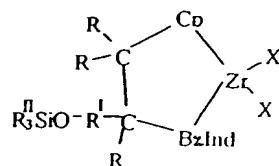
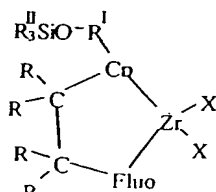
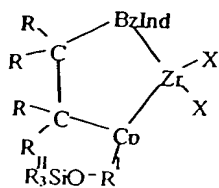
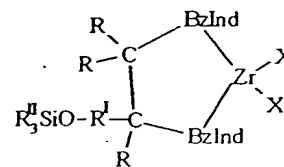
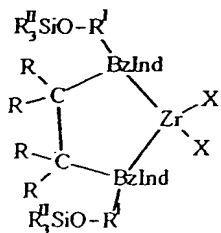
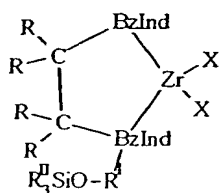
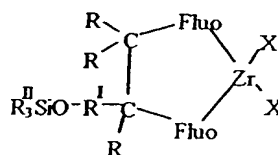
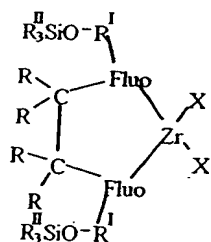
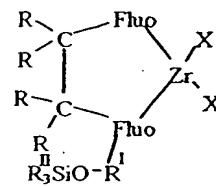
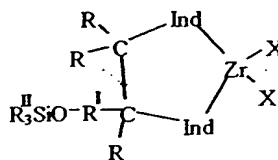
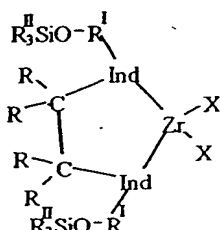
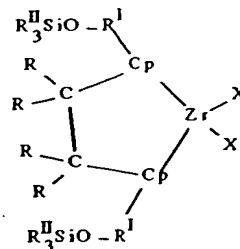
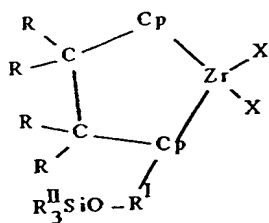
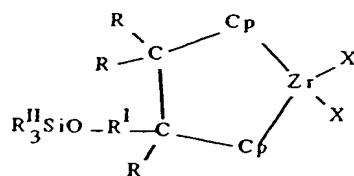
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## APPENDIX D



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wherein Ind is an indenyl ring that is optionally substituted with C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>3</sub>-C<sub>20</sub> cycloalkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>3</sub>-C<sub>20</sub> alkenyl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, C<sub>8</sub>-C<sub>20</sub> arylalkenyl, or C<sub>7</sub>-C<sub>20</sub> alkyaryl;

#### APPENDIX D

wherein BzInd is a benzoindenyl ring that is optionally substituted with C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>3</sub>-C<sub>20</sub> cycloalkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>3</sub>-C<sub>20</sub> alkenyl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, C<sub>8</sub>-C<sub>20</sub> arylalkenyl, or C<sub>7</sub>-C<sub>20</sub> alkyaryl;

and wherein Fluo is a fluorenyl ring that is optionally substituted with C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>3</sub>-C<sub>20</sub> cycloalkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>3</sub>-C<sub>20</sub> alkenyl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, C<sub>8</sub>-C<sub>20</sub> arylalkenyl, or C<sub>7</sub>-C<sub>20</sub> alkyaryl.

28. The heterogeneous catalytic system claimed in Claim 21, wherein the supported metallocene compound is selected from the group consisting of:

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bis(trimethylsiloxyethyl-cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxyethyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxyethyl-cyclopentadienyl)(indenyl) zirconium dichloride;  
(trimethylsiloxyethyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;  
(trimethylsiloxyethyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;  
(trimethylsiloxyethyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;  
(trimethylsiloxyethyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;  
[1-(2-trimethylsiloxyethyl)indenyl] (cyclopentadienyl) zirconium dichloride;  
[1-(2-methylsiloxyethyl)indenyl] (pentamethyl cyclopentadienyl) zirconium dichloride;

bis(trimethylsiloxypropyl-cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxypropyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxypropyl-cyclopentadienyl)(indenyl) zirconium dichloride;

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(trimethylsiloxypropyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;  
(trimethylsiloxypropyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;  
(trimethylsiloxypropyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;  
(trimethylsiloxypropyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;  
[1-(3-trimethylsiloxypropyl)indenyl](cyclopentadienyl) zirconium dichloride;

bis(trimethylsiloxy-methoxy-cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxy-methoxy-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride ;  
(trimethylsiloxy-methoxy-cyclopentadienyl)(indenyl) zirconium dichloride;  
(trimethylsiloxy-methoxy-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;  
(trimethylsiloxy-methoxy-cyclopentadienyl)(fluorenyl) zirconium dichloride;  
(trimethylsiloxy-methoxy-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;  
(trimethylsiloxy-methoxy-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

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Cont  
bis(trimethylsiloxy-ethoxy-cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxy-ethoxy-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride ;  
(trimethylsiloxy-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
(trimethylsiloxy-ethoxy-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;  
(trimethylsiloxy-ethoxy-cyclopentadienyl)(fluorenyl) zirconium dichloride;  
(trimethylsiloxy-ethoxy-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;  
(trimethylsiloxy-ethoxy-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;

bis(trimethylsiloxy-ethyl-(dimethyl)silyl-cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxy-propyl-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;  
(trimethylsiloxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(indenyl) zirconium dichloride;  
(trimethylsiloxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(2-methyl-indenyl) zirconium dichloride;  
(trimethylsiloxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(fluorenyl) zirconium dichloride;  
(trimethylsiloxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(9-methyl-fluorenyl) zirconium dichloride;  
(trimethylsiloxy-ethyl-(dimethyl)silyl-cyclopentadienyl)(pentamethylcyclopentadienyl) zirconium dichloride;  
bis(trimethylsiloxy-(dimethyl)silyl-cyclopentadienyl) zirconium dichloride;

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(trimethylsiloxy-(dimethyl)silyl-cyclopentadienyl)(cyclopentadienyl) zirconium dichloride;  
dimethylsilandiylbis(2-trimethylsiloxyethyl-cyclopentadienyl) zirconium dichloride;  
dimethylsilandiylbis(3-trimethylsiloxyethyl-cyclopentadienyl) zirconium dichloride;  
dimethylsilandiyl(3-trimethylsiloxyethyl-cyclopentadienyl) (cyclopentadienyl) zirconium  
dichloride;  
dimethylsilandiyl(2-trimethylsiloxyethyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
dimethylsilandiyl(3-trimethylsiloxyethyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxyethyl-indenyl))(cyclopentadienyl) zirconium dichloride;  
dimethylsilandiyl(2-trimethylsiloxyethyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium  
dichloride;  
dimethylsilandiyl(3-trimethylsiloxyethyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium  
dichloride;  
dimethylsilandiyl(2-trimethylsiloxyethyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
dimethylsilandiyl(3-trimethylsiloxyethyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
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dichloride;  
dimethylsilandiyl(3-trimethylsiloxyethyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium  
dichloride;  
dimethylsilandiyl(3-trimethylsiloxyethyl-cyclopentadienyl)(1-(2-methylbenzoindenyl))  
zirconium dichloride;  
dimethylsilandiylbis(2-trimethylsiloxypropyl-cyclopentadienyl) zirconium dichloride;  
dimethylsilandiylbis(3-trimethylsiloxypropyl-cyclopentadienyl) zirconium dichloride;  
dimethylsilandiyl(3-trimethylsiloxypropyl-cyclopentadienyl) (cyclopentadienyl) zirconium  
dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxypropyl-indenyl)) (cyclopentadienyl) zirconium dichloride;  
dimethylsilandiyl(2-trimethylsiloxypropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
dimethylsilandiyl(3-trimethylsiloxypropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
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dimethylsilandiyl(3-trimethylsiloxypropyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium  
dichloride;  
dimethylsilandiyl(2-trimethylsiloxypropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
dimethylsilandiyl(3-trimethylsiloxypropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
dimethylsilandiyl(2-trimethylsiloxypropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium  
dichloride;

## APPENDIX D

dimethylsilandiyl(3-trimethylsiloxypropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-trimethylsiloxypropyl-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(2-trimethylsiloxy-methoxy-cyclopentadienyl) zirconium dichloride;

dimethylsilandiylbis(3-trimethylsiloxy-methoxy-cyclopentadienyl) zirconium dichloride;

dimethylsilandiyl(2-trimethylsiloxy-methoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-trimethylsiloxy-methoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(2-trimethylsiloxy-methoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-trimethylsiloxy-methoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-trimethylsiloxy-methoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(3-trimethylsiloxy-methoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(2-trimethylsiloxy-methoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-trimethylsiloxy-methoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(2-trimethylsiloxy-ethoxy-cyclopentadienyl) zirconium dichloride;

dimethylsilandiylbis(3-trimethylsiloxy-ethoxy-cyclopentadienyl) zirconium dichloride;

dimethylsilandiyl(2-trimethylsiloxy-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-trimethylsiloxy-ethoxy-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(2-trimethylsiloxy-ethoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-trimethylsiloxy-ethoxy-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-trimethylsiloxy-ethoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(3-trimethylsiloxy-ethoxy-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(2-trimethylsiloxy-ethoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium

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dichloride;

dimethylsilandiyl(3-(trimethylsiloxy-ethoxy-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride;

dimethylsilandiylbis(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride;

dimethylsilandiyl(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(3-(trimethylsiloxy-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

dimethylsilandiyl(3-(trimethylsiloxy-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(3-trimethylsiloxy-(dimethyl)silyl)-indenyl) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxy-(dimethyl)silyl)-indenyl) (1-indenyl)zirconium dichloride;

isopropylidenebis(2-trimethylsiloxyethyl-cyclopentadienyl) zirconium dichloride;

isopropylidenebis(3-trimethylsiloxyethyl-cyclopentadienyl) zirconium dichloride;

isopropylidene(2-trimethylsiloxyethyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;



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isopropylidene(1-(3-trimethylsiloxyethyl-indenyl)(cyclopentadienyl) zirconium dichloride;

isopropylidene(2-trimethylsiloxyethyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-trimethylsiloxyethyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(2-trimethylsiloxyethyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

isopropylidenebis(2-trimethylsiloxypropyl-cyclopentadienyl) zirconium dichloride;

isopropylidenebis(3-trimethylsiloxypropyl-cyclopentadienyl) zirconium dichloride;

isopropylidene(2-trimethylsiloxypropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxypropyl-indenyl)(cyclopentadienyl) zirconium dichloride;

isopropylidene(2-trimethylsiloxypropyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-trimethylsiloxypropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(2-trimethylsiloxypropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

isopropylidenebis(2-(trimethylsiloxy-methoxy)-cyclopentadienyl) zirconium dichloride;

isopropylidenebis(3-(trimethylsiloxy-methoxy)-cyclopentadienyl) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-methoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-methoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

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isopropylidene(2-(trimethylsiloxy-methoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-methoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-methoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-methoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-methoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-methoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl) zirconium dichloride;

isopropylidenebis(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride;

isopropylidenebis(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

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isopropylidene(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

isopropylidene(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

isopropylidene(3-(trimethylsiloxy-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium dichloride;

ethylidenebis(2-trimethylsiloxyethyl-cyclopentadienyl) zirconium dichloride;

ethylidenebis(3-trimethylsiloxyethyl-cyclopentadienyl) zirconium dichloride;

ethylidene(3-trimethylsiloxyethyl-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride;

ethylidene(2-trimethylsiloxyethyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;

ethylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxyethyl-indenyl))(cyclopentadienyl) zirconium dichloride;

ethylidene(2-trimethylsiloxyethyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(2-trimethylsiloxyethyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

ethylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

ethylidene(2-trimethylsiloxyethyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidene(3-trimethylsiloxyethyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

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ethylidenebis(2-trimethylsiloxypropyl-cyclopentadienyl) zirconium dichloride;  
ethylidenebis(3-trimethylsiloxypropyl-cyclopentadienyl) zirconium dichloride;  
ethylidene(3-trimethylsiloxypropyl-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride;  
ethylidene(2-trimethylsiloxypropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
ethylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxypropyl-indenyl))(cyclopentadienyl) zirconium dichloride;  
ethylidene(2-trimethylsiloxypropyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(2-trimethylsiloxypropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
ethylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
ethylidene(2-trimethylsiloxypropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;  
ethylidene(3-trimethylsiloxypropyl-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

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ethylidenebis(2-(trimethylsiloxy-methoxy)-cyclopentadienyl) zirconium dichloride;  
ethylidenebis(3-(trimethylsiloxy-methoxy)-cyclopentadienyl) zirconium dichloride;  
ethylidene(2-(trimethylsiloxy-methoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
ethylidene(3-(trimethylsiloxy-methoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
ethylidene(2-(trimethylsiloxy-methoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(3-(trimethylsiloxy-methoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(2-(trimethylsiloxy-methoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
ethylidene(3-(trimethylsiloxy-methoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
ethylidene(2-(trimethylsiloxy-methoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;  
ethylidene(3-(trimethylsiloxy-methoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl) zirconium dichloride;  
ethylidenebis(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl) zirconium dichloride;  
ethylidene(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

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ethylidene(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(1-indenyl) zirconium dichloride;  
ethylidene(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

ethylidene(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

ethylidene(2-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidene(3-(trimethylsiloxy-ethoxy)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride;

ethylidenebis(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl) zirconium dichloride;

ethylidene(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

ethylidene(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-indenyl) zirconium dichloride;

ethylidene(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

ethylidene(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

ethylidene(2-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidene(3-(trimethylsiloxy-ethyl-(dimethyl)silyl)-cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(2-trimethylsiloxyethyl-indenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(3-trimethylsiloxyethyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxyethyl-indenyl))(1-indenyl) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxyethyl-indenyl))(1-indenyl) zirconium dichloride;

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dimethylsilandiyl(1-(2-trimethylsiloxyethyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxyethyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxyethyl-indenyl))(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxyethyl-indenyl))(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxyethyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxyethyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(2-trimethylsiloxypropyl-indenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(3-trimethylsiloxypropyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxypropyl-indenyl))(1-indenyl) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxypropyl-indenyl))(1-indenyl) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxypropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxypropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxypropyl-indenyl))(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxypropyl-indenyl))(9-fluorenyl) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxypropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxypropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(2-trimethylsiloxy-methoxy-indenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(3-trimethylsiloxy-methoxy-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxy-methoxy-indenyl))(1-indenyl) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxy-methoxy-indenyl))(1-indenyl) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxy-methoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxy-methoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilandiyl(1-(2-trimethylsiloxy-methoxy-indenyl))(9-fluorenyl) zirconium dichloride;

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dimethylsilandiyl(1-(3-trimethylsiloxy-methoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
dimethylsilandiyl(1-(2-trimethylsiloxy-methoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxy-methoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(2-trimethylsiloxy-ethoxy-indenyl)) zirconium dichloride;  
dimethylsilandiylbis(1-(3-trimethylsiloxy-ethoxy-indenyl)) zirconium dichloride;  
dimethylsilandiyl(1-(2-trimethylsiloxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;  
dimethylsilandiyl(1-(2-trimethylsiloxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
dimethylsilandiyl(1-(2-trimethylsiloxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
dimethylsilandiyl(1-(2-trimethylsiloxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilandiylbis(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;  
dimethylsilandiylbis(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;  
dimethylsilandiyl(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;  
dimethylsilandiyl(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
dimethylsilandiyl(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;  
dimethylsilandiyl(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;

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dimethylsilandiyl(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl))  
zirconium dichloride;

dimethylsilandiyl(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl))  
zirconium dichloride;

isopropylidenebis(1-(2-trimethylsiloxyethyl-indenyl)) zirconium dichloride;

isopropylidenebis(1-(3-trimethylsiloxyethyl-indenyl)) zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxyethyl-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxyethyl-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxyethyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxyethyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxyethyl-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxyethyl-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxyethyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium  
dichloride;

isopropylidene(1-(3-trimethylsiloxyethyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium  
dichloride;

isopropylidenebis(1-(2-trimethylsiloxypropyl-indenyl)) zirconium dichloride;

isopropylidenebis(1-(3-trimethylsiloxypropyl-indenyl)) zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxypropyl-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxypropyl-indenyl))(1-indenyl) zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxypropyl-indenyl))(1-(2-methyl-indenyl)) zirconium  
dichloride;

isopropylidene(1-(3-trimethylsiloxypropyl-indenyl))(1-(2-methyl-indenyl)) zirconium  
dichloride;

isopropylidene(1-(2-trimethylsiloxypropyl-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxypropyl-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxypropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium  
dichloride;

isopropylidene(1-(3-trimethylsiloxypropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium  
dichloride;

isopropylidenebis(1-(2-trimethylsiloxy-methoxy-indenyl)) zirconium dichloride;

isopropylidenebis(1-(3-trimethylsiloxy-methoxy-indenyl)) zirconium dichloride;



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isopropylidene(1-(2-trimethylsiloxy-methoxy-indenyl))(1-indenyl) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-methoxy-indenyl))(1-indenyl) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-methoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-methoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-methoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-methoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-methoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-methoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

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isopropylidenebis(1-(2-trimethylsiloxy-ethoxy-indenyl)) zirconium dichloride;  
isopropylidenebis(1-(3-trimethylsiloxy-ethoxy-indenyl)) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;  
isopropylidenebis(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;  
isopropylidene(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;  
isopropylidene(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl))

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zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl))

zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidene(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(1-(2-trimethylsiloxyethyl-indenyl)) zirconium dichloride;

ethylidenebis(1-(3-trimethylsiloxyethyl-indenyl)) zirconium dichloride;

ethylidene(1-(2-trimethylsiloxyethyl-indenyl))(1-indenyl) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxyethyl-indenyl))(1-indenyl) zirconium dichloride;

ethylidene(1-(2-trimethylsiloxyethyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxyethyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(1-(2-trimethylsiloxyethyl-indenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxyethyl-indenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(1-(2-trimethylsiloxyethyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxyethyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(1-(2-trimethylsiloxypropyl-indenyl)) zirconium dichloride;

ethylidenebis(1-(3-trimethylsiloxypropyl-indenyl)) zirconium dichloride;

ethylidene(1-(2-trimethylsiloxypropyl-indenyl))(1-indenyl) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxypropyl-indenyl))(1-indenyl) zirconium dichloride;

ethylidene(1-(2-trimethylsiloxypropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxypropyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(1-(2-trimethylsiloxypropyl-indenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxypropyl-indenyl))(9-fluorenyl) zirconium dichloride;

dichloride;

ethylidene(1-(2-trimethylsiloxypropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxypropyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;  
dichloride;

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ethylidenebis(1-(2-trimethylsiloxy-methoxy-indenyl)) zirconium dichloride;  
ethylidenebis(1-(3-trimethylsiloxy-methoxy-indenyl)) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-methoxy-indenyl))(1-indenyl) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-methoxy-indenyl))(1-indenyl) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-methoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-methoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-methoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-methoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-methoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-methoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

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ethylidenebis(1-(2-trimethylsiloxy-ethoxy-indenyl)) zirconium dichloride;  
ethylidenebis(1-(3-trimethylsiloxy-ethoxy-indenyl)) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-ethoxy-indenyl))(1-indenyl) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-ethoxy-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-ethoxy-indenyl))(9-fluorenyl) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-ethoxy-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;  
ethylidenebis(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl)) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-indenyl) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;

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ethylidene(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(1-(2-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidene(1-(3-trimethylsiloxy-ethyl-(dimethyl)silyl-indenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilylenebis(9-(1-trimethylsiloxyethyl-fluorenyl)) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxyethyl-fluorenyl))(cyclopentadienyl) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxyethyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxyethyl-fluorenyl))(1-indenyl) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxyethyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilylenebis(9-(1-trimethylsiloxypropyl-fluorenyl)) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxypropyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxypropyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxypropyl-fluorenyl))(1-indenyl) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxypropyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilylenebis(9-(1-trimethylsiloxy-methoxy-fluorenyl)) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(9-fluorenyl) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(1-indenyl) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilylenebis(9-(1-trimethylsiloxy-ethoxy-fluorenyl)) zirconium dichloride;


dimethylsilylene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(9-fluorenyl) zirconium dichloride;

dimethylsilylene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

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dimethylsilylene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(1-indenyl) zirconium dichloride;  
dimethylsilylene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

dimethylsilylenebis(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride;  
dimethylsilylene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride;  
dimethylsilylene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
dimethylsilylene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride;  
dimethylsilylene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;



isopropylidenebis(9-(1-trimethylsiloxyethyl-fluorenyl)) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxyethyl-fluorenyl))(9-fluorenyl) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxyethyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxyethyl-fluorenyl))(1-indenyl) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxyethyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(9-(1-trimethylsiloxypropyl-fluorenyl)) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxypropyl-fluorenyl))(9-fluorenyl) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxypropyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxypropyl-fluorenyl))(1-indenyl) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxypropyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(9-(1-trimethylsiloxy-methoxy-fluorenyl)) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(9-fluorenyl) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
isopropylidene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(1-indenyl) zirconium dichloride;

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isopropylidene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(9-(1-trimethylsiloxy-ethoxy-fluorenyl)) zirconium dichloride;

isopropylidene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(1-indenyl) zirconium dichloride;

isopropylidene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

isopropylidenebis(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride;

isopropylidene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

isopropylidene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

isopropylidene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium dichloride;

isopropylidene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(9-(1-trimethylsiloxyethyl-fluorenyl)) zirconium dichloride;

ethylidene(9-(1-trimethylsiloxyethyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(9-(1-trimethylsiloxyethyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(9-(1-trimethylsiloxyethyl-fluorenyl))(1-indenyl) zirconium dichloride;

ethylidene(9-(1-trimethylsiloxyethyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(9-(1-trimethylsiloxypropyl-fluorenyl)) zirconium dichloride;

ethylidene(9-(1-trimethylsiloxypropyl-fluorenyl))(9-fluorenyl) zirconium dichloride;

ethylidene(9-(1-trimethylsiloxypropyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;

ethylidene(9-(1-trimethylsiloxypropyl-fluorenyl))(1-indenyl) zirconium dichloride;

ethylidene(9-(1-trimethylsiloxypropyl-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(9-(1-trimethylsiloxy-methoxy-fluorenyl)) zirconium dichloride;

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ethylidene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(9-fluorenyl) zirconium dichloride;  
ethylidene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium  
dichloride;  
ethylidene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(1-indenyl) zirconium dichloride;  
ethylidene(9-(1-trimethylsiloxy-methoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium  
dichloride;

ethylidenebis(9-(1-trimethylsiloxy-ethoxy-fluorenyl)) zirconium dichloride;  
ethylidene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(9-fluorenyl) zirconium dichloride;  
ethylidene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(1-(2-methyl-indenyl)) zirconium dichloride;  
ethylidene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(1-indenyl) zirconium dichloride;  
ethylidene(9-(1-trimethylsiloxy-ethoxy-fluorenyl))(9-(2-methyl-fluorenyl)) zirconium dichloride;

ethylidenebis(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl)) zirconium dichloride;  
ethylidene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(9-fluorenyl) zirconium  
dichloride;  
ethylidene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(1-(2-methyl-indenyl)) zirconium  
dichloride;  
ethylidene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(1-indenyl) zirconium  
dichloride;  
ethylidene(9-(1-trimethylsiloxy-ethyl-(dimethyl)silyl-fluorenyl))(9-(2-methyl-fluorenyl))  
zirconium dichloride;

trimethylsiloxyethyl(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiylbis(9-fluorenyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium  
dichloride;  
trimethylsiloxyethyl(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium  
dichloride;  
trimethylsiloxyethyl(methyl)silandiylbis(1-indenyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium  
dichloride;  
trimethylsiloxyethyl(methyl)silandiylbis(1-(2-methylbenzoindenyl)) zirconium dichloride;

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trimethylsiloxypropyl(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;  
trimethylsiloxypropyl(methyl)silandiylbis(9-fluorenyl) zirconium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium  
dichloride;  
trimethylsiloxypropyl(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium  
dichloride;  
trimethylsiloxypropyl(methyl)silandiylbis(1-indenyl) zirconium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl(cyclopentadienyl)(1-(2-methylbenzoindenyl)) zirconium  
dichloride;

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ent  
trimethylsiloxy-methoxy(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium  
dichloride;  
trimethylsiloxy-methoxy(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium  
dichloride;

trimethylsiloxy-ethoxy(methyl)silandiylbis(cyclopentadienyl) zirconium dichloride;  
trimethylsiloxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium dichloride;  
trimethylsiloxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium  
dichloride;  
trimethylsiloxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxy-ethoxy(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium  
dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiylbis(cyclopentadienyl) zirconium  
dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(1-indenyl) zirconium  
dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(1-(2-methyl-indenyl))  
zirconium dichloride;



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trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxy-ethoxy-(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;  
trimethylsiloxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium dichloride;

trimethylsiloxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

trimethylsiloxy-ethoxy-(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylidenebis(cyclopentadienyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(1-indenyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(9-fluorenyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylidene(cyclopentadienyl)(9-(2-methyl-fluorenyl)) zirconium dichloride;

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trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylidenebis(1-indenyl) zirconium dichloride;

1-trimethylsiloxyethyl-ethylidenebis(cyclopentadienyl) zirconium dichloride;

1-trimethylsiloxyethyl-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;

1-trimethylsiloxyethyl-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;

1-trimethylsiloxyethyl-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;

1-trimethylsiloxyethyl-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;

1-trimethylsiloxyethyl-ethylidenebis(1-indenyl) zirconium dichloride;

1-trimethylsiloxypropyl-ethylidenebis(cyclopentadienyl) zirconium dichloride;

1-trimethylsiloxypropyl-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;

1-trimethylsiloxypropyl-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;

1-trimethylsiloxypropyl-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;

1-trimethylsiloxypropyl-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;

1-trimethylsiloxypropyl-ethylidenebis(1-indenyl) zirconium dichloride;

1-trimethylsiloxy-methoxy-ethylidenebis(cyclopentadienyl) zirconium dichloride;

1-trimethylsiloxy-methoxy-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;

1-trimethylsiloxy-methoxy-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;

1-trimethylsiloxy-methoxy-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;

1-trimethylsiloxy-methoxy-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;

1-trimethylsiloxy-ethoxy-ethylidenebis(cyclopentadienyl) zirconium dichloride;

1-trimethylsiloxy-ethoxy-ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;

1-trimethylsiloxy-ethoxy-ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;

1-trimethylsiloxy-ethoxy-ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;

1-trimethylsiloxy-ethoxy-ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;

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dichloride;

1-trimethylsiloxy-ethyl-(dimethyl)silyl ethylidenebis(cyclopentadienyl) zirconium dichloride;

1-trimethylsiloxy-ethyl-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(1-indenyl) zirconium dichloride;

1-trimethylsiloxy-ethyl-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(1-(2-methyl-indenyl)) zirconium dichloride;

1-trimethylsiloxy-ethyl-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(9-fluorenyl) zirconium dichloride;

1-trimethylsiloxy-ethyl-(dimethyl)silyl ethylidene-1-(cyclopentadienyl)-2-(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(cyclopentadienyl) titanium dichloride;

trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;

trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;

trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;

trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;

trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;

trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(1-(2-methylbenzoindenyl) titanium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-(trimethylsiloxyethylcyclopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-trimethylsiloxyethylindenyl) titanium dichloride;

(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(cyclopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(tetramethylcyclopentadienyl) titanium dichloride;

(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(1-indenyl) titanium dichloride;

(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(9-fluorenyl) titanium dichloride;

(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(1-(2-methylbenzoindenyl) titanium

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dichloride;

trimethylsiloxypropyl(methyl)silandiyl(tertbutylamido)-(cylopentadienyl) titanium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium  
dichloride;

trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium  
dichloride;

trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium  
dichloride;

trimethylsiloxypropyl(methyl)silandiyl(tertbutylamido)-(1-(2-methylbenzoindenyl) titanium  
dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-(trimethylsiloxypropylcylopentadienyl) titanium  
dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-trimethylsiloxypropylindenyl) titanium  
dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(cylopentadienyl) titanium  
dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(tetramethylcyclopentadienyl) titanium  
dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(1-indenyl) titanium  
dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(9-fluorenyl) titanium  
dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(1-(2-methylbenzoindenyl) titanium  
dichloride;

trimethylsiloxy-methoxy (methyl)silandiyl-(tertbutylamido)(cylopentadienyl) titanium  
dichloride;

trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl)  
titanium dichloride;

trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;

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trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;

trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;

trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(cyclopentadienyl) titanium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)-(cyclopentadienyl) titanium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl) silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-indenyl) titanium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) titanium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;

trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(cyclopentadienyl) titanium dichloride;

trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) titanium dichloride;

trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(1-indenyl) titanium dichloride;

trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;

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trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;  
trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium  
dichloride;

trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(cyclopentadienyl) titanium dichloride;  
trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl)  
titanium dichloride;  
trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(indenyl) titanium dichloride;  
trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(2-methyl-indenyl) titanium  
dichloride;  
trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;  
trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(2-methyl-fluorenyl) titanium  
dichloride;

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trimethylsiloxy-methoxy(methyl)methylene(tertbutylamido)(cyclopentadienyl) titanium  
dichloride;  
trimethylsiloxy-methoxy(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl)  
titanium dichloride;  
trimethylsiloxy-methoxy(methyl)methylen(tertbutylamido)(1-indenyl) titanium dichloride;  
trimethylsiloxy-methoxy(methyl)methylen(-tertbutylamido)(1-(2-methyl-indenyl)) titanium  
dichloride;  
trimethylsiloxy-methoxy(methyl)methylen(-tertbutylamido)(9-fluorenyl) titanium dichloride;  
trimethylsiloxy-methoxy(methyl)methylen(-tertbutylamido)(9-(2-methyl-fluorenyl)) titanium  
dichloride;

trimethylsiloxy-ethoxy-(methyl)methylene(tertbutylamido)(cyclopentadienyl) titanium  
dichloride;  
trimethylsiloxy-ethoxy-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl)  
titanium dichloride;  
trimethylsiloxy-ethoxy-(methyl)methylen(tertbutylamido)(1-indenyl) titanium dichloride;  
trimethylsiloxy-ethoxy-(methyl)methylen(tertbutylamido)(1-(2-methyl-indenyl)) titanium  
dichloride;  
trimethylsiloxy-ethoxy-(methyl)methylen(tertbutylamido)(9-fluorenyl) titanium dichloride;  
trimethylsiloxy-ethoxy-(methyl)methylen(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium  
dichloride;

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trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(cylopentadienyl) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl (methyl) methylene (tertbutylamido) (tetramethylcyclopentadienyl) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(1-indenyl) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(9-fluorenyl) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) titanium dichloride;

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trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;  
trimethylsiloxyethyl(methyl)silandiyl-(tertbutylamido)(1-(2-methylbenzoindenyl) zirconium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-(trimethylsiloxyethylcyclopentadienyl) zirconium dichloride;  
(dimethyl)silandiyl-(tertbutylamido)(1-(3-trimethylsiloxyethylindenyl) zirconium dichloride;

(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(cylopentadienyl) zirconium dichloride;  
(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(tetramethylcyclopentadienyl) zirconium dichloride;  
(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(1-indenyl) zirconium dichloride;  
(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(9-fluorenyl) zirconium dichloride;

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(dimethyl)silandiyl-(2-trimethylsiloxyethylamido)(1-(2-methylbenzoindenyl) zirconium dichloride;

trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)-(cylopentadienyl) zirconium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxypropyl(methyl)silandiyl-(tertbutylamido)-(1-(2-methylbenzoindenyl) zirconium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(3-(trimethylsiloxypropylcylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(tertbutylamido)(1-(3-trimethylsiloxypropylindenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(cylopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(1-indenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(9-fluorenyl) zirconium dichloride;

(dimethyl)silandiyl-(3-trimethylsiloxypropylamido)(1-(2-methylbenzoindenyl) zirconium dichloride;

trimethylsiloxy-methoxy (methyl)silandiyl-(tertbutylamido)(cylopentadienyl) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;



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trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(cyclopentadienyl) zirconium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;  
trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxy-ethoxy(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)-(cyclopentadienyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl) silandiyl-(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-indenyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-fluorenyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)silandiyl-(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(cyclopentadienyl) zirconium dichloride;

trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(1-indenyl) zirconium dichloride;

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trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxyethyl-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(cyclopentadienyl) zirconium dichloride;

trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(indenyl) zirconium dichloride;  
trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(2-methyl-indenyl) zirconium dichloride;  
trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxypropyl-(methyl)methylene(tertbutylamido)(2-methyl-fluorenyl) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)methylene(tertbutylamido)(cyclopentadienyl) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

trimethylsiloxy-methoxy(methyl)methylen(tertbutylamido)(1-indenyl) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)methylen(-tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)methylen(-tertbutylamido)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxy-methoxy(methyl)methylen(-tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxy-ethoxy-(methyl)methylene(tertbutylamido)(cyclopentadienyl) zirconium dichloride;

trimethylsiloxy-ethoxy-(methyl)methylene(tertbutylamido)(tetramethylcyclopentadienyl) zirconium dichloride;

trimethylsiloxy-ethoxy-(methyl)methylen(tertbutylamido)(1-indenyl) zirconium dichloride;  
trimethylsiloxy-ethoxy-(methyl)methylen(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;

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trimethylsiloxy-ethoxy-(methyl)methylen(tertbutylamido)(9-fluorenyl) zirconium dichloride;  
trimethylsiloxy-ethoxy-(methyl)methylen(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(cylopentadienyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl (methyl) methylene (tertbutylamido) (tetramethylcyclopentadienyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(1-indenyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(1-(2-methyl-indenyl)) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(9-fluorenyl) zirconium dichloride;

trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl)methylene(tertbutylamido)(9-(2-methyl-fluorenyl)) zirconium dichloride;

trimethylsiloxyethyl(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;

trimethylsiloxyethyl(methyl) silandiyl-oxo-(tetramethylcyclopentadienyl) titanium dichloride;

trimethylsiloxyethyl(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;

trimethylsiloxyethyl(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;

trimethylsiloxyethyl(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;

trimethylsiloxyethyl(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;

trimethylsiloxypropyl(methyl) silandiyl-oxo(cylopentadienyl) titanium dichloride;

trimethylsiloxypropyl(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;

trimethylsiloxypropyl(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;

trimethylsiloxypropyl(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;

trimethylsiloxypropyl(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;

trimethylsiloxypropyl(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;

trimethylsiloxy-methoxy(methyl) silandiyl- oxo(cylopentadienyl) titanium dichloride;


trimethylsiloxy-methoxy(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;

trimethylsiloxy-methoxy(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;

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trimethylsiloxy-methoxy(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;  
trimethylsiloxy-methoxy(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;  
trimethylsiloxy-methoxy(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;

trimethylsiloxy-ethoxy(methyl) silandiyl-oxo(cyclopentadienyl) titanium dichloride;  
trimethylsiloxy-ethoxy(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;  
trimethylsiloxy-ethoxy(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;  
trimethylsiloxy-ethoxy(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;  
trimethylsiloxy-ethoxy(methyl) silandiyl-oxo(9-fluorenyl) titanium dichloride;  
trimethylsiloxy-ethoxy(methyl) silandiyl-oxo(9-(2-methyl-fluorenyl)) titanium dichloride;



trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl) silandiyl-oxo(cyclopentadienyl) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl) silandiyl-oxo(tetramethylcyclopentadienyl) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl) silandiyl-oxo(1-indenyl) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl) silandiyl-oxo(1-(2-methyl-indenyl)) titanium dichloride;  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl) silandiyl-oxo(fluorenyl) titanium dichloride; and  
trimethylsiloxy-ethyl-(dimethyl)silyl-(methyl) silandiyl-oxo(9-methylfluorenyl) titanium dichloride .

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29. The heterogeneous catalytic system claimed in Claim 21, wherein, prior to supporting the metallocene compound, the inorganic support is not functionalized.

30. The heterogeneous catalytic system claimed in Claim 21, wherein the supported metallocene compound is defined by the formula II or the formula III.

31. The heterogeneous catalytic system claimed in Claim 21, wherein each  $R^I$  in the formula I is a divalent or aromatic hydrocarbon group containing from 1 to 20 carbon atoms and optionally containing boron, and wherein each  $R^I$  in the formula I does not contain any heteroatoms from groups 14 to 16 of the Periodic Table of the Elements.

32. The heterogeneous catalytic system claimed in Claim 21, wherein each  $R^I$  in the formula I is a divalent or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, wherein each  $R^I$  in the formula I does not contain any boron, and wherein each  $R^I$  in the formula I does not contain any heteroatoms from groups 14 to 16 of the Periodic Table of the Elements.

33. The heterogeneous catalytic system claimed in Claim 21, wherein m is equal to 1.

34. The heterogeneous catalytic system claimed in Claim 30, wherein m is equal to 1.

35. The heterogeneous catalytic system claimed in Claim 31, wherein m is equal to 1.

36. The heterogeneous catalytic system claimed in Claim 32, wherein m is equal to 1.

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37. The heterogeneous catalytic system claimed in Claim 21, wherein the supported metallocene compound is selected from the group consisting of:

[(3-trimethylsiloxypropyl)methylsilylen] bis indenyl zirconium dichloride;

[(1,1-dimethyl-1-sila-4-trimethylsiloxybutyl) cyclopentadienyl] cyclopentadienyl zirconium dichloride;

[1-(3-trimethylsiloxypropyl)indenyl] cyclopentadienyl zirconium dichloride;

dimethylsilylen [3-(2-trimethylsiloxyethyl)cyclopentadienyl] indenyl zirconium dichloride;

dimethylsilylen [3-(2-trimethylsiloxyethyl)cyclopentadienyl] cyclopentadienyl zirconium dichloride;

[1-(2-trimethylsiloxyethyl)indenyl] cyclopentadienyl zirconium dichloride;

[1-(2-trimethylsiloxyethyl)indenyl] pentamethylcyclopentadienyl zirconium dichloride;

(3-trimethylsiloxypropylcyclopentadienyl) (cyclopentadienyl) zirconium dichloride;

(3-trimethylsiloxypropyl)methylsilylen]bis(1-indenyl) zirconium dichloride;

[(1,1-dimethyl-1-sila-4-trimethylsiloxybutyl)-cyclopentadienyl] cyclopentadienyl zirconium dichloride;

dimethylsilylen(trimethylsiloxyethyl-3-cyclopentadienyl) (1-indenyl) zirconium dichloride; and

dimethylsilylen(trimethylsiloxyethyl-3-cyclopentadienyl) (cyclopentadienyl) zirconium dichloride.

38 (37) A process for polymerization of alpha olefins in a slurry or in a gas phase, wherein the polymerization is catalyzed by the heterogeneous catalyst system of Claim 21.

39 (38) A process for polymerizing a monomer or a mixture of a

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C-4 monomer and a comonomer, wherein the process comprises:  
contacting the heterogeneous catalytic system claimed in Claim  
21 with the monomer or the mixture to polymerize the monomer or  
the mixture.

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